BACK TO MAIN MENU

Technical Data

ELECTRICAL DATA	CECC 22000	TEST REQUIREMENTS
Impedance		50 Ω
Frequency range		DC ... 6 GHz
VSWR (mated pair) - up to 4 GHz - 4 up to 6 GHz		(typical values) ≤ 1.15 ≤ 1.40
Dielectric withstanding voltage (at sea level)	4.4.5	500 V rms, 50 Hz
Working voltage (at sea level)		≤ 170 V rms, 50 Hz
Insulation resistance	4.4.4	≥ 500 MΩ
Contact resistance - center conductor - outer conductor	 4.4.2 4.4.3	 ≤ 10 mΩ ≤ 5 mΩ

MECHANICAL DATA	CECC 22000	TEST REQUIREMENTS
Engagement force	4.5.4	≤ 15 N / *3.4 lbs*
Disengagement force	4.5.4	6 N ... 15 N / *1.4 ... 3.4 lbs*
Contact captivation	4.5.2	≥ 10 N / *2.3 lbs*
Durability (matings)	4.7.1	≥ 500

ENVIRONMENTAL DATA	CECC 22000 TEST CONDITIONS	EQUIVALENT MIL TEST CONDITIONS
Temperature range		– 40°C ... + 90°C / *– 40°F ... + 194°F*
Climatic class acc. to IEC	4.6.5 → 40 / 90 / 21	
Temperature shock	4.6.7	MIL-STD-202, Method 107, – 40°C/ *40°F* and + 90°C/ *+ 194°F*, 30 min. each
Humidity	4.6.6	MIL-STD-202, Method 103, Condition B
Vibration	4.6.3	3 cycles in 3 opposite directions 10-150 Hz, 10-60 Hz: 0.75 mm/*.030 in.*, 60-150 Hz: 10 G
Mechanical shock	4.6.4	MIL-STD-202, Method 213, Condition B

BACK TO MAIN MENU

BACK TO MAIN MENU

PROCESSING DATA	CECC 00802	TEST
Soldering method (excluding wave soldering)	6.2 class A	7.2.4. a), cat. 1 and 3
Resistance to soldering heat	7.2.2	7.2.4. a), cat. 1
Solderability	7.2.1	7.2.4. b)
Leaching	7.2.3	7.2.4. b), 10 s
Adherent to the print - bending of PCB - shearing - pulling (vertical to PCB)	 7.3.2 7.3.3	 1 mm/*.040 in.*, 30 s 40 N/*9.0 lbs*, 10 s 60 N/*13.5 lbs*, 10 s

MATERIAL DATA			
CONNECTOR PART	**STANDARDS**	**MATERIAL**	**PLATING**
Leads Contact socket	ASTM-B-103 ASTM-B-103 / QQ-C-530	phosphor bronze phosphor bronze / beryllium copper	tinned tinned / gold
Outer conductor	QQ-B-626	brass	gold
Body	QQ-B-626	LCP (liquid crystal polymer) brass	 gold
Insulator		LCP (liquid crystal polymer) PTFE or PFA	

Some connectors may have a specification that differs from the above mentioned data.

BACK TO MAIN MENU

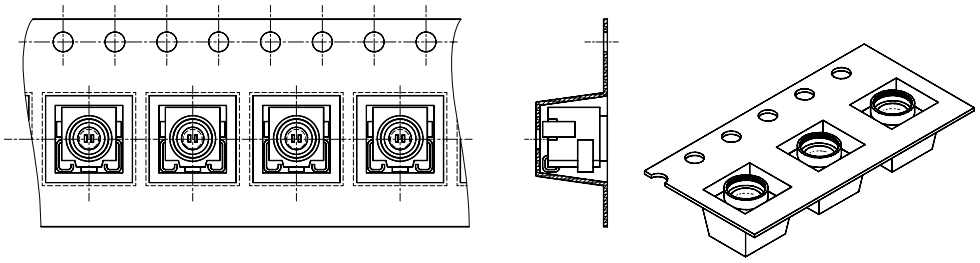
Packaging

Blister tape supply in accordance with IEC 286-3/EIA-481

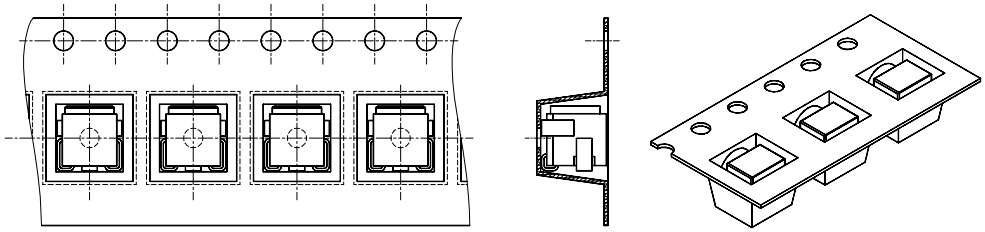
For automated placement the connectors can be supplied on industry standard tape-and-reel. Depending on the application, they are packaged uniformly either for vertical or horizontal mounting.

Bulk supply in bags of 100 pcs.
(90 MMCX-S50-0-51)

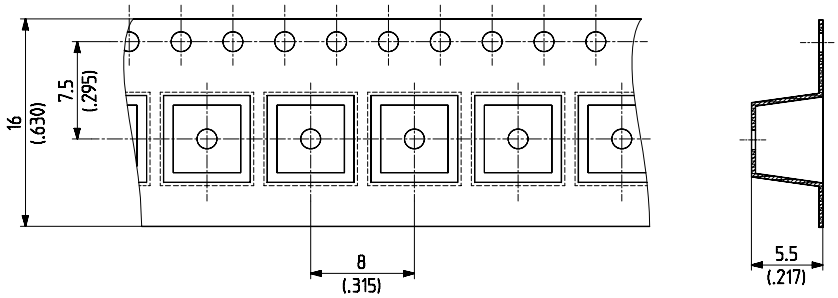
This delivery form supports vertical or horizontal applications of the SMT MMCX connector.
It is suitable for manual or automated tube fed pick-and-place assembly.



1. straight (vertical) application (82 MMCX-S50-0-51)



2. right angle (horizontal) application (85 MMCX-S50-0-51)



Dimensions of blister carrier tape

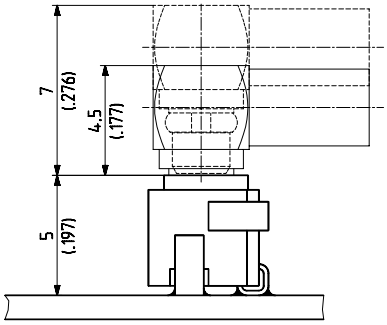
The 16 mm/*.63 inches* blister tape is delivered on reels of 330 mm/*13 inches* diameter and in tough cardboard boxes.

BACK TO MAIN MENU

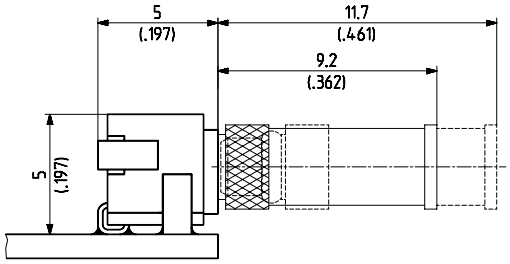
BACK TO MAIN MENU

Application Notes

Dimensions of mated pair and clearance for mating



Vertical mounting together with a right angle cable connector (can be rotated by 360°)



Horizontal mounting together with a straight cable connector

Appropriate operation

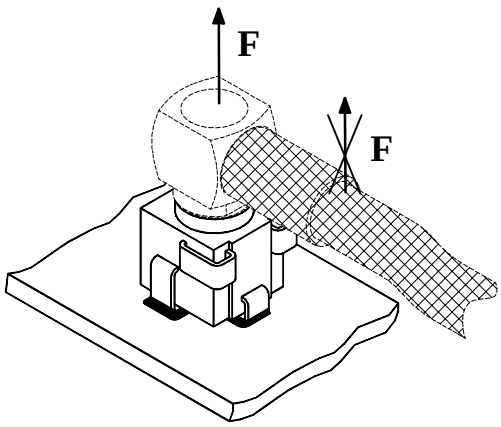
Surface-mounted electronic components exhibit a lower adherence force to the PCB than through-hole components.
The solder joints act as a mechanical fixation to the board and also function as the electrical contact.
Therefore the following has to be considered:

- Avoid forces from the cable of the mating connector to the surface mount connector.
  Fix the cable sufficiently and in several places.
- Apply only axial forces during the mating and demating of the connector parts.

Non-axial forces — such as improper pulling at the cable entry or the cable portion of right angle mating connector — may cause excessive torque forces, which could result in damage to the solder joints.

Recommendation:
Application of the assembly tools 74 Z-0-0-225 or 74 Z-0-0-272 when disengaging right angle connectors. The tool 74 Z-0-0-272 can simultaneously be used as a mating support for straight connectors.

Warning:
force must not be applied to this region



BACK TO MAIN MENU

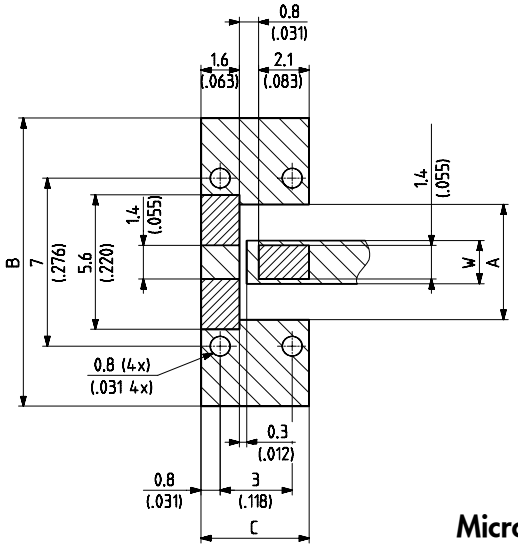
BACK TO MAIN MENU

Recommended mounting pattern

MATERIAL FR 4 (ε_r = 4.6)

pattern

land (free of solder mask)



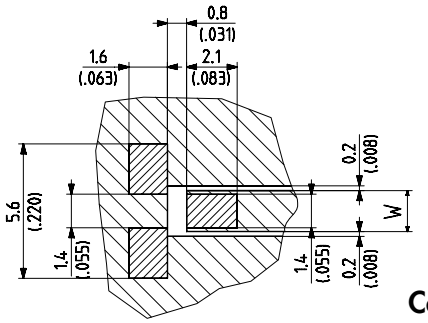
Microstrip line

PCB thickness	W	A	B	C
1.0 mm / *.039 in.*	1.8 mm / *.071 in.*	2.4 mm / *.094 in.*	12 mm / *.472 in.*	4.5 mm / *.177 in.*
1.6 mm / *.063 in.*	2.8 mm / *.110 in.*	4.8 mm / *.189 in.*	16 mm / *.630 in.*	5.0 mm / *.197 in.*

MATERIAL FR 4 (ε_r = 4.6)

pattern

land (free of solder mask)



Coplanar line

PCB thickness	W
0.8 mm / *.031 in.*	1.85 mm / *.037 in.*
1.0 mm / *.039 in.*	1.70 mm / *.067 in.*
1.2 mm / *.047 in.*	1.60 mm / *.063 in.*
1.6 mm / *.063 in.*	1.50 mm / *.059 in.*

Data valid for PCB material FR 4 (εr = 4.6)

Automated pick-and-place

The SMT MMCX connectors can be processed on all state-of-the-art pick-and-place machines.

Application hints:

- Position of the connectors in the carrier tape

  For the uniform orientation of the connectors refer to the figures in section "Packaging" (see page 74).

- Connector pick up by suction tip

  1. Vertical mounting (82 MMCX-S50-0-51)

BACK TO MAIN MENU

BACK TO MAIN MENU

You have the choice between the contact of the suction tip on the outer edge of the outer conductor sleeve (convenient circular or square standard tip) or the insertion of a special tip into the connector interface.
When using an insertion tip consider that the outer conductor sleeve is only centered along one axis.
A chuck alignment is possible only along this axis, which however is fully sufficient.

2. Horizontal mounting (85 MMCX-S50-0-51)
The suction tip meets an even surface and can be a suitable standard one:

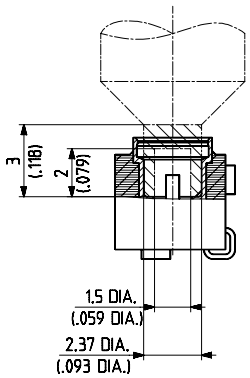
- Vision system alignment inspection
The optical alignment inspection of the SMT MMCX connector is supported by its asymmetrical contour in vertical as well as horizontal applications.
- Placement
For placing the connectors, the special arrangement of the leads must be considered. When applying a suction tip, the eccentricity of the outer conductor sleeve has to be taken into account.

Soldering

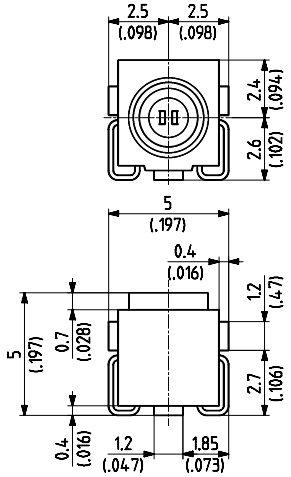
SMT MMCX connectors are compatible with reflow soldering methods.
Infrared soldering (IR, IC - max. 260°C/*500°F*, 10s) and vapour phase soldering (215°C/*419°F*, max. 30s) are recommended.
Normal "eutectic" solder pastes (63% tin, 37% lead, metal content 85 - 90%) can be used with a thickness of 0.20 mm/*.008 inches* to 0.25 mm/*.010 inches* if stencilled or screened in accordance with our recommended mounting pattern. The stand-off of 0.4 mm/*.016 inches* enables an easy visual inspection of the soldered joint.

Cleaning

The stand-off also allows effective cleaning after soldering, if necessary. It is especially advantageous when applying aqueous solutions.
Because of the material used, SMT MMCX connectors withstand solvents such as alcohols, halogenated hydrocarbons and azeotropic solutions, as well as water mixed with alkaline saponifiers (refer to CECC 00802).



Recommendation for an insertion tip



BACK TO MAIN MENU

BACK TO MAIN MENU

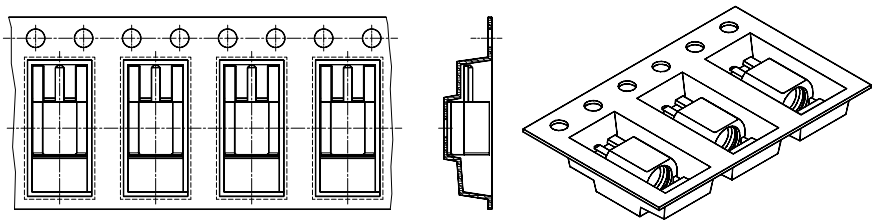
Packaging

Blister tape supply in accordance with IEC 286-2/EIA-481

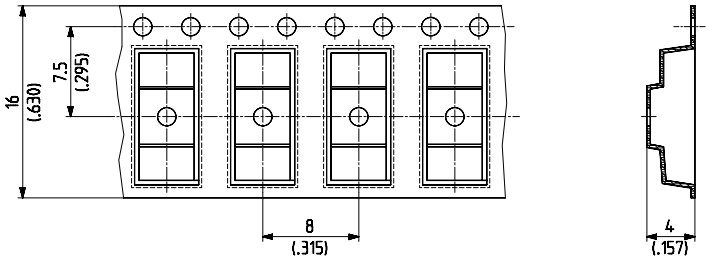
For automated placement the connectors can be supplied on industry standard type-and-reel.

Bulk supply in bags of 100 pcs.

This delivery form is suitable for manual or automated tube fed pick-and-place assembly.



straight (horizontal) application

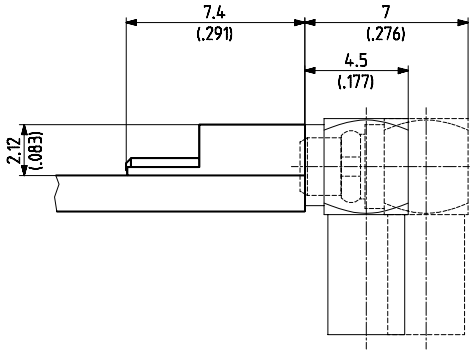


dimensions of blister carrier tape

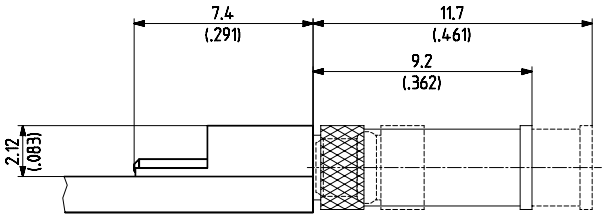
The 16 mm/*.63 inches* blister tape is delivered on reels of 330 mm/*13 inches* diameter, in a tough cardboard box.

Application Notes

Dimensions of mated pair and clearance for mating



Horizontal mounting together with a right angle cable connector



Horizontal mounting together with a straight cable connector

BACK TO MAIN MENU

BACK TO MAIN MENU

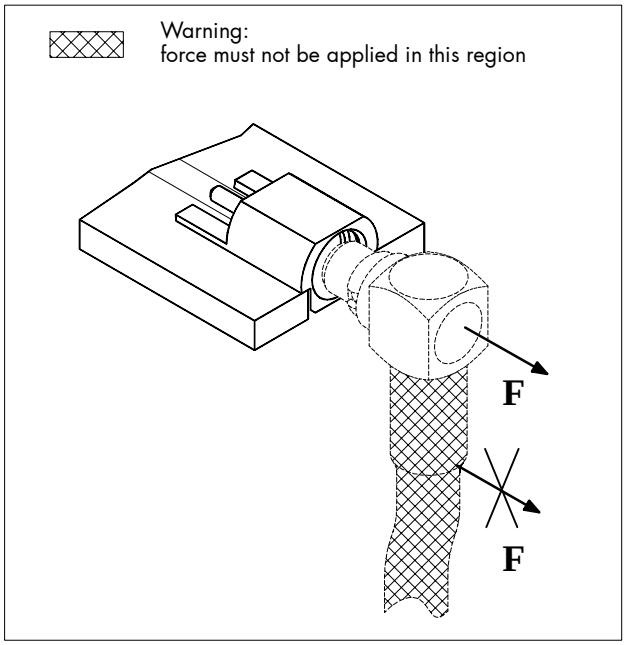
Appropriate operation

For appropriate operation the following has to be considered:

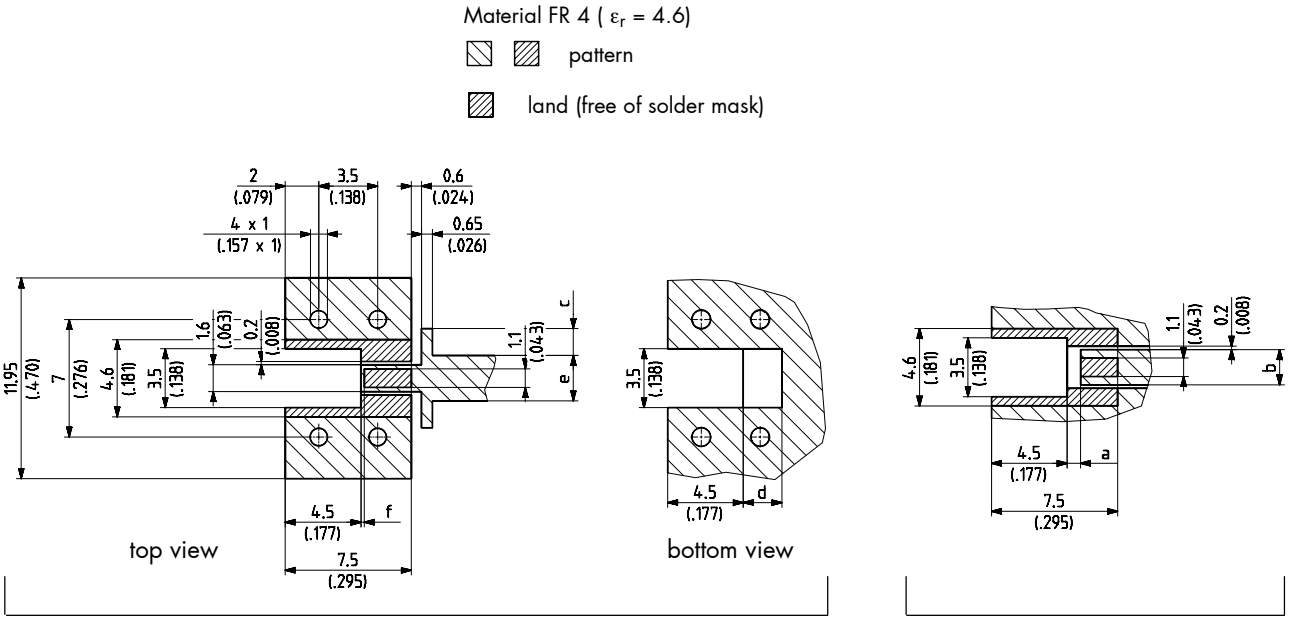
- Avoid forces from the cable of the mating connector to the surface mount connector.
  Fix the cable sufficiently and in several places.
- Apply only axial forces during the mating and demating of the connector parts.

Non-axial forces — such as improper pulling at the cable entry or the cable portion of a right angle mating connector — may cause excessive torque forces, which could result in damage to the solder joints.

For further information about soldering or cleaning, please CLICK HERE.



Recommended mounting pattern



	Microstrip line				Coplanar line	
PCB thickness	a	b	c	d	e	f
0.8 mm / *.031 in.*	1.6 / *.063*	1.90 / *.075*		1.1 / *.043*	1.4 / *.055*	1.0 / *.039*
1.0 mm / *.039 in.*	1.4 / *.055*	1.75 / *.069*	0.3 / *.012*	1.2 / *.047*	1.8 / *.071*	0.9 / *.035*
1.6 mm / *.063 in.*	0.8 / *.031*	1.55 / *.061*	1.6 / *.063*	2.3 / *.091*	2.8 / *.110*	0.4 / *.016*

Automated pick-and-place

For instructions for automated pick and place process CLICK HERE.

BACK TO MAIN MENU